Attorney's Docket No.: 10973-111001 / K43-Applicant: Makoto Izawa 160304M/SMI

Serial No.: 10/716,245

: November 18, 2003 Filed

: 2 of 8 Page

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

(Currently Amended) An irradiating direction control apparatus of a headlamp for 1. a vehicle which controls an irradiating direction of the headlamp for the vehicle depending on a change in an posture of the vehicle, comprising:

vehicle posture detecting means for detecting the change in the posture of the vehicle, wherein the vehicle posture detecting means includes one and only one sensor;

irradiation control means for calculating a pitch angle indicative of a vertical inclined posture in a forward direction of the vehicle based on information detected by the vehicle posture detecting means and computing a control amount for correcting an optical axis of irradiation related to the headlamp for the vehicle, and setting a ground angle of the optical axis of the irradiation in a deceleration of the vehicle to be smaller than a ground reference angle of the optical axis of the irradiation during stop or constant speed running of the vehicle, thereby carrying out a correcting calculation for maintaining a forward visible distance of the vehicle to be constant; and

driving means for changing a direction of the optical axis of the irradiation of the headlamp for the vehicle upon receipt of a control command sent from the irradiation control means,

wherein when a ground reference angle of the optical axis of the irradiation is represented as "\alpha", a ground clearance of the headlamp for the vehicle is represented as "Hhl" and a forward visible distance of the vehicle is represented as "L", the irradiation control means subtracts an angle obtained as an inverse tangent of a ratio "Hhl/L" from the ground reference angle " α " and sets the value thus obtained as a correction value to compute a control amount for correcting the

Applicant: Makoto Izawa Attorney's Docket No.: 10973-111001 / K43-Serial No.: 10/716,245 160304M/SMI

Filed: November 18, 2003

Page : 3 of 8

optical axis of the irradiation based on an amount obtained by correcting the value of the pitch angle.

2. (Canceled)

3. (Original) The irradiating direction control apparatus of a headlamp for a vehicle according to claim 1, further comprising running state detecting means for detecting a running state of the vehicle,

wherein when an acceleration in a deceleration of the vehicle is detected by the running state detecting means, the irradiation control means adds a correction amount which is proportional to an absolute value of the acceleration to a control amount determined by the pitch angle.

4. (Currently Amended) An irradiating direction control apparatus of a headlamp for a vehicle which controls an irradiating direction of the headlamp for the vehicle depending on a change in an posture of the vehicle, comprising:

vehicle posture detecting means for detecting the change in the posture of the vehicle, wherein the vehicle posture detecting means includes one and only one sensor;

irradiation control means for calculating a pitch angle indicative of a vertical inclined posture in a direction of advance of the vehicle based on information detected by the vehicle posture detecting means and computing a control amount for correcting an optical axis of irradiation related to the headlamp for the vehicle, and setting a ground angle of the optical axis of the irradiation in an acceleration of the vehicle to be greater than a ground reference angle of the optical axis of the irradiation during stop or constant speed running of the vehicle, thereby carrying out a correcting calculation for maintaining a forward visible distance of the vehicle to be constant; and

driving means for changing a direction of the optical axis of the irradiation of the headlamp for the vehicle upon receipt of a control command sent from the irradiation control means,

wherein when a ground reference angle of the optical axis of the irradiation is represented as " α ", a ground clearance of the headlamp for the vehicle is represented as "Hhl" and a forward

Attorney's Docket No.: 10973-111001 / K43-Applicant: Makoto Izawa 160304M/SMI Serial No.: 10/716,245

: November 18, 2003 Filed

: 4 of 8 Page

Ų,

visible distance of the vehicle is represented as "L", the irradiation control means subtracts an angle obtained as an inverse tangent of a ratio "Hhl/L" from the ground reference angle "\alpha" and sets the value thus obtained as a correction value to compute a control amount for correcting the optical axis of the irradiation based on an amount obtained by correcting the value of the pitch angle.

(Original) The irradiating direction control apparatus of a headlamp for a vehicle 5. according to claim 4, further comprising running state detecting means for detecting a running state of the vehicle,

wherein when an acceleration in an acceleration of the vehicle is detected by the running state detecting means, the irradiation control means subtracts a correction amount which is proportional to an absolute value of the acceleration from a control amount determined by the pitch angle.